CAMPUS NOTES

GENERAL

Editor's Note: It was through the individual efforts of Prof. C. E. Sherman that Mr. Northrop was obtained to give this instructive lecture before the engineering students.

One of the most interesting and instructive lectures ever given before the Engineering College students was that of September 30, by Mr. Albert A. Northrop, representative of the Stone and Webster corporation of Boston. This corporation projects, constructs, operates and even finances engineering works of all kinds, but is chiefly interested in hydro-electric developments, and in 1911, according to U. S. Corporation Commissioner Knox, was exceded by only one group of capitalists in this country in the extent of its water-power interests.

Mr. Northrop presented highly interesting and lucid moving pictures and lantern slides of one of the most recently completed projects, that in the high Sierra mountains on the Feather River in California, where the water is worked under 1100 feet head against the largest impulse water wheel in the world. The current is sent under 160,000 volts a distance of 200 miles to San Francisco.

The project involved the best talent of the civil, electrical, mechanical and mining engineer, because of the remoteness of the location and its physical surroundings which caused difficulty in tunnel and foundation construction.

The slides and "movies" were presented in such a way as to make clear each step from the preliminary lumbering, highway and railway construction operations on to the construction of the massive dam on difficult foundations, to create the large reservoir at headwaters which regulates the flow through the flumes. The flumes tunneled through the mountains in all kinds of rock in this volcanic country and raised difficult problems for the mining engineer.

The penstock conducting the water down the 1100 foot drop, and the power house were of the most modern and stable construction, as were also the water wheels, generators and transmission lines over the mountains to the far away city.

The Springfield, Ohio, engineering society, which was visiting the campus, attended the lecture in a body, and together with engineering students from all departments, filled the auditorium to overflowing.

CERAMICS

The student branch of the American Ceramic Society held a meeting October 10th and elected the following officers for the year:

Whitsell—President.
Smith—Vice President.
Baldauf—Secretary-Treasurer.

Professor Watts gave a short talk pointing out the advantages the Society will have this year over those of last year. The Bureau of Mines has increased its force and has opened its laboratories for inspection by the Ceramic students. Mr. Purdy, organizing secretary of the National Society, has established his office in Lord Hall. January 1st he becomes the General Secretary and this position will cause committees made up of the big engineers to come to Lord Hall for meetings. The Society hopes to be able to get these men for lectures at their meetings. Mr. Purdy was formerly Professor of Ceramics at Ohio State.

A special meeting of the Society was called October 25th by President Whitsell, at which the student body became acquainted with Mr. Purdy and Professor Bole, former professor at the New York School of Ceramics, Alfred, N. Y., and who is now Physical Chemist for the Bureau of Mines.

Professor Bole gave a lecture on colloids, a subject which has lately become of great importance to ceramics. The subject matter as presented was extremely interesting and was made even more so by a general discussion following the close of the lecture. The meeting was very interesting and proved Professor Watts' prediction, that this year will make our Society one of the best. The meeting was very well attended.

The student society urges all Ceramic students to come to these meetings. Every meeting will be announced through the daily Lantern and also upon the various bulletin boards on the Campus. These meetings are always interesting and are helpful in many ways.

Professor Purdy defines a Ceramic engineer as—a chemist, an economic geologist, a physical chemist and an engineer.

Watch the bulletin boards—Boost and benefit.

CIVILS

The first meeting of the C. E. Club this semester was held October 4, in Brown Hall. Prof. C. E. Sherman, head of the C. E. Department, gave the opening address. He remarked upon the importance of the organization as a medium whereby the Civils could become better acquainted.

O. W. Merrell, President of the Club, announced plans for an Engineers' Council, to have representatives from each department of the Engineering College.

The officers of the Club are:

O. W. Merrell, President.
W. M. Ruddicks, Secretary-Treasurer.
L. C. Noland, Registrar.

O. W. Merrell and Ben K. Bare were elected to represent the Civils in the Engineers' Council.

Prof. C. T. Morris gave an interesting talk at the C. E. Club on October 19. He talked on "The Problems of the Ohio Stadium." The meeting was well attended. Dean Hitchcock was present and heartily endorsed the organization of the Engineers' Council. A bushel of apples helped to round out the meeting.

H. F. Cotner and J. H. Ault have charge of the athletic activities of the Civils, and desire the cooperation of all in this department. The Civils want that "cup." The Electricals forfeited to the Civils in the first soccer game.

Mr. C. P. (Chemically Pure) Hoover was the speaker at the meeting of the C. E. Club on November 1. His talk was on "Clarification of Water Supply." Mr. Hoover told of and demonstrated the various steps of purifying the water. His remarks

were very interesting and especially valuable to the Civils.

Through the efforts of Mr. Hoover, Columbus has risen to a city of the First Class as regards water supply. It has been pronounced by the Government authorities to be 100% pure.

As the representative of the Columbus Chamber of Commerce, Prof. C. E. Sherman recently made an inspection trip along the New York Barge Canal. The party consisted of Congressmen, Federal and State officials, manufacturers, shippers and representatives of Chambers of Commerce.

The itinerary included the following cities: New York City, Albany, Utica, Syracuse, Rochester and Buffalo, with side trips to other places. The party traveled by steam boat (up the Hudson), by launches, by automobiles and by trolley car on or along the entire length of the waterway, 600 miles from New York to Buffalo.

MINING AND METALLURGY

The student branch of The American Institute of Mining and Metallurgical Engineers held its first meeting of the year on Friday evening, October 14th, in Lord Hall. The meeting was very successful and all the members seemed enthusiastic about the future of the Society.

Smokes were in order and plans were formulated for a banquet, dance, smokers, and several other social functions. Athletic teams were also chosen and will participate in the intramurals.

Professors Nold and Demorest gave short talks of much interest to the Society. Harry Porter told of the mine war in West Virginia, and had some thrilling incidents to tell. Several of the students gave accounts of their experiences during the summer.

At the first meeting Professors Nold and Demorest agreed to dismiss their classes in Mining and Metallurgy at four o'clock and use that hour for a discussion on topics of interest to students of course not in the curricula. These topics were to be for general discussion and to be along scientific or related subjects.

The topic of the first discussion period was "The Relation of the Engineer to Both Labor and Capital." Many of the students gave their opinions as formed from their practical experience. Mr. Nold also made several suggestions and gave example of relationship of the engineer to labor and capital.

A short business meeting of the Society was held Thursday, October 17th, and arrangements were made for a banquet and other social affairs to be held later in the year.

ELECTRICAL ENGINEERING NEWS

The first meeting of the A. I. E. E. was held Thursday, October 27, at the Union. Several of the seniors spoke of their summer work and Prof. Caldwell talked to the Branch. After these talks a smoker was held, doughnuts and cider also being served.

Plans were made to have Mr. Bean of the New York Central Railroad here November 10 to give a talk on his early experiences in the building of railroads. Mr. Bean is called the Dean of Engineers in Cleveland and it is his hobby to travel about the country speaking to different Engineering Societies.

Last summer Prof. Caldwell ran tests on all of the different types of automobile headlight lenses to determine whether or not they came up to the specifications of the new headlighting law. A large number of lenses were submitted to be tested and the results of these tests were used by the State officials in regulating the sale of the lenses in the State.

Mr. L. D. Barley and Mr. Wimbigler have been appointed to represent the Electricals on the Engineering Council.

A reception for the Freshmen Electricals will be held some time this semester in Robison Lab. It will be planned along the same lines as the one given last year. The apparatus will be run and a number of electrical stunts will be shown, also there will be refreshments served. It is up to every Freshman to see that he gets to this reception because it will give him a chance to meet the upperclassmen and also he will have a better idea of what he will get when he becomes an upperclassman.

MECHANICALS

Two illustrated lectures have been scheduled for the Student Branch of the A. S. M. E. The first, a talk on "The Manufacture of Ball Bearings," will be given under the auspices of the S. K. F. Industries. The second will be a lecture and moving picture on the manufacture of zinc.

The Society has elected the following officers: V. N. Yingling, chairman; J. M. Jervis, secretary; T. M. Magruder, treasurer.

Mr. R. N. Feicht has been appointed to take charge of athletics in the M. E. Department. Soccer and indoor baseball teams are being organized and several games are scheduled soon. All students in the department are urged to come out for these teams.

J. M. Jervis will represent the senior class and R. M. Dillon the junior class of the mechanicals in the Engineering Council.

An appropriation of $3695.00 has just been made for the installation of a 50 kw. Steam Turbine Electric Generator Set in the mechanical laboratory. The set will be so constructed that a brake test can be run on the turbine as a prime mover, if desired, or the set can be used for the generation of electricity at 220 volts, D. C. The appropriation does not cover the cost of a condenser for the outfit and it is hoped that this will be taken care of in the near future. This is the first new piece of apparatus this department has received since the installation of the refrigeration plant five years ago. The set will probably be delivered in February and it is possible that several seniors will do thesis work on the erection of the unit.

CHEMICAL NOTES

The student Chemical Society met October 12, 1921, and elected the following officers:

President, I. C. Staeuble.
Vice President, R. J. Gotter.
Treasurer, C. A. Arthur.
Secretary, Miss Herr.
Sergeant-at-Arms, H. B. Cooke.

A large membership is expected this year and the society is planning many new features for the coming season. Among other things it is intending to co-operate with the faculty in publishing a Chem-

istry departmental newspaper. The society will meet the first and third Wednesday of the month.

Dr. J. B. Cohen of the University of Utrecht, Holland, gave a series of lectures here during the past month on The Metastability of Matter and on Pressure Chemistry. While here he was entertained by the Chemistry department.

The Ohio State chapter of Sigma Xi, under whose auspices Dr. Cohen was brought here, is planning a very extensive program of lectures on scientific subjects for the coming winter. In November Prof. Weiss of Ohio State will lecture on Behaviorism. In December Dr. Moore, Chief Chemist of The U. S. Bureau of Mines, will lecture on Radium.

In January Prof. Hayhurst of Ohio State will lecture. His subject will be "Goiter."

Other subjects that will be taken up from time to time are X-ray Work ,Aluminum Production and Altitude Plying.

Dr. France has very largely taken over the work of Dr. Henderson, who recently was appointed Dean of the Arts College.

The new Chemistry building is being pushed rapidly to completion. It is expected that it will be ready for use by the first of next semester.

Dr. Mack, professor of Physical Chemistry, joined the ranks of the benedicts a short time before school opened.

Some new exhibits of chemicals have been received and one placed in various parts of the chem. building.

ARCHITECTS

The first meeting of the year was held October 5, 1921, the purpose being to appoint various committees and explain to the new members the purpose of the club.

From the outlook of the number that attended, and the spirit in which the meeting was conducted, it can be plainly seen that the Architects are in for their banner year. Refreshments were served and a good time was enjoyed by all.

On October 19, 1921, the club was very fortunate in hearing Mr. J. R. Lucktenburg of the Burton-Townsend Brick Co., Ashtabula, on the manufacturing of various kinds of face brick. We would like to see a few more Ceramics and Civils at these talks, because the knowledge gained is invaluable.

Paul L. Wood was appointed the Architects' representative to the new Engineers' Council.

The Architects have gotten well under way in soccer and indoor baseball and our teams are looking forward to a few more cups.

A Hallowe'en party was staged Thursday evening, the 27th, and the time that all those had will not soon be forgotten.

On the evening of November 2, 1921, Professor Fanning of the Art Department, took the club on an imaginary trip through eight of the greatest cathedrals of France. A better lecture along this particular line has rarely been heard. His paintings, made while in the service of the Red Cross, were a treat to the artist's eye.

THE ENGINEER'S "IF"

With Apologies to Rudyard Kipling

If you can swing an axe, or wield a brush-hook,
Or drive a stake, or drag a chain all day,
If you can scribble figures in a note-book,
Or shoot a range pole half a mile away.
If you can sight a transit, or a level,
Or move a target up and down a rod.
If you have fear of neither man, nor devil,
And know yourself and trust the living God.

If you can wade a swamp, or swim a river,
Nor fear the deeps, nor yet the dizzy heights.
If you can stand the cold without a shiver,
And take the Higgin's ink to bed o' nights.
If you can turn a thumb screw with your fingers,
When every digit's like a frozen thumb.
If you can work as long as daylight lingers,
And not complain, nor think your going some.

If you can sight thru tropic heat's reflection,
Or toil all day beneath a blistering sun.
If you can find a sort of satisfaction,
In knowing that you got a job well done.
If you can be an Esquimo and nigger,
And try to be a gentleman to boot.
If you can use a "guessin' stick" to figure,
And know a coefficient from a root.

If you can climb a stool, and not feel lowly,
Nor have your head turned by a swivel chair.
If you can always reach your judgments slowly,
And make your rulings always just and fair.
If you can give yourself, and all that's in you,
And make the others give up their best, too.
If you can handle men of brawn and sinew,
And like the men, and make them like you, too.

If you can't boast a college education,
Or, if you've got a sheepskin, can forget,
If you've a living wage for compensation,
And give a little more than what you get.
If you can meet with triumph and disaster,
And treat them without favor, nor with fear.
You'll be a man—and you'll be your own master,
But—what is more—you'll be an ENGINEER.

—H. B. Steeg, *Triangle Review.*

FAMOUS LAST WORDS

"I wonder if it's alive? I'll touch it and see."

"Listen! That's the train whistle. Step on it and we'll try to get across."

"They say these things can't explode. I'm safe lighting this match."

"I wonder whether this rope will hold my weight?"

"I don't believe that I'll need rubber gloves to pull this dead wire out."

"These traffic cops think they own the city. They can't stop me, I'm going across the street now. Let everyone look out for himself."—Exchange.

BRINGING MORE DAYLIGHT INTO INDUSTRIAL BUILDINGS.

Dr. George M. Price, writing on "The Importance of Light in Factories," in "The Modern Factory," states: "Light is an essential working condition in all industrial establishments, and is also of paramount influence in the preservation of the health of the workers. There is no condition within industrial establishments to which so little attention is given as proper lighting and illumination. Especially is this the case in many of the factories in the United States. A prominent investigator, who had extensive opportunities to make observations of industrial establishments in Europe as well as in America, states: "I have seen so many mills and other works miserably lighted, that bad light is the most conspicuous and general defect of American factory premises."

"My own investigations for the New York State Factory Commission support this view. In these investigations it was found that 36.7% of the laundries inspected, 49.2% of the candy factories, 48.4% of the printing places, 50% of the chemical establishments, were inadequately lighted. There was hardly a trade investigated without finding a large number of inadequately lighted establishments."

Inadequate and defective lighting of industrial buildings is not confined to the establishments in New York State alone. The same conditions prevail in most sections of the country.

Such conditions as mentioned above are entirely opposed to the laws of health, sanitation and efficiency. Wherever poor lighting conditions prevail, there must be a corresponding loss of efficiency and output both in quality and in quantity. American industry is not using nearly enough daylight and sunlight in its buildings. Every endeavor should be made to use as much as possible of daylight for lighting purposes. To obtain this it is of course necessary that the rays of daylight and sunlight are permitted to enter the interior of the buildings as freely as possible, with the important modification that the direct rays of the sun must be properly diffused to prevent glare and eyestrain. A glass especially made for this purpose is known as Factrolite, and is recommended for the windows of industrial plants. Windows should be kept clean if the maximum amount of daylight is to pass through the glass, but the effort will be well repaid by the benefits secured.

In the presence of poor lighting, we cannot expect men to work with the same enthusiasm as when a well lighted working place has been provided. The physical surroundings have a deep effect upon the sentiments of the employes, and where bad working conditions are allowed to prevail, there is invariably a lessening of morale and satisfaction created thereby. Neglecting to utilize what nature has so bounteously provided, daylight, and which is so essential toward industrial efficiency, we have an instance of wastefulness, but now that the importance of good lighting is becoming recognized, undoubtedly more attention will be given by progressive industrial employers to furnishing the means which are essential for their workers to secure and maintain the efficiency, which counts for so much in the success of any industrial concern in this competitive age.

If you are interested in the distribution of light through Factrolite, we will send you a copy of Laboratory Report—"Factrolited."

MISSISSIPPI WIRE GLASS CO.,
220 Fifth Avenue,
St. Louis. New York. Chicago.
No. 3.

PROFESSIONAL ATTITUDE

About his junior year the Engineering student begins to emerge from the complexities of Calculus and Mechanics, and other basic studies, and delve into the practical. With the change comes an inkling of what his professional engineering work is going to be like, and about this time also, he should begin to show increased interest in the problems of his profession-to-be. It is all too easy and also very uninteresting to attack the work of the Junior and Senior years in the same routine methods of the underclass days. Show personality and interest in your work—develop a new crinkle in your brain. Reports written only to answer the questions asked, and showing the results secured, give the instructor no great idea of your worth. Go a little farther than the next fellow. Tell him something new. Get the professional attitude!—*Wisconsin Engineer.*

WATER PURIFICATION FOR TOWNS ON TIDAL RIVERS

U. S. Public Health Service

The method by which Uncle Sam, acting through the United States Public Health Service, purifies the drinking water for his model hospital village and reservation at Perryville, Md., though not altogether new, carries some interesting lessons for the country at large and particularly for towns situated along tidal rivers.

The raw water, which is pumped from the Susquehanna River through 30-inch mains to settling tanks, is subject to rapid changes in turbidity ranging from 10 to 100 parts per million; and the amount of aluminum sulphate to be added as a coagulant and precipitant must be varied to suit. Samples of the water entering the mains are taken every two hours; and the amount of coagulant to be added is determined by the chart based on the amount of water and its turbidity; for instance 0.6 grain of the alum is added for 10 parts per million of turbidity. This amount, however, is also governed by the alkalinity, which may vary greatly during the day; when it drops below 14 parts per million, soda ash is added.

Two hours are allowed for settlement in the tanks, after which the water flows by gravity through mechanical rapid sand filters, passing through three feet of sand and eight inches of stone and gravel at the rate of two inches in 55 seconds. Later, the water is treated with liquid chlorine, the amount depending on bacteriological examination of the raw and the chlorinated water. This treatment reduces the bacteria from an average of 2,630 (maximum 7,860) per cubic centimeter to less than one.

The condition of the water at Perryville is affected by the geological formation of the country, by the daily conflict of the tide and the river current, and by the strong winds which often cause terrific wind action on the low flats, all of which necessitate very effective treatment.

SPEAKING OF OPTICAL DELUSIONS

Speaking of the above, there is a judge of a criminal court in a certain New England state so cross-eyed that rumor has it he has to look over his left shoulder when buttoning his suspenders in front.

Not so very long ago three nervous youths were brought before him for arraignment on the charge of stealing an automobile. The clerk read the names of the accused, the prosecutor briefly outlined the nature of part of the evidence, and the judge, sternly fixing his gaze upon the supposed ringleader who stood at the bar between his two accomplices, said:

"Young man, how do you plead—guilty or not guilty?"

"Guilty, sir," instantly said the youth on the right of the central figure.

"I wasn't speaking to you," snapped the judge. "What do you mean by answering out of your turn?"

"Why, Your Honor," whined the lad on the left, "I ain't said a word."—Saturday Evening Post.